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EXAMINER

ZIMMERMAN, JOSHUA D

ART UNIT PAPER NUMBER

2854

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/811,763

Applicant(s)

MARKHART, GARY T.

Examiner

Joshua D. Zimmerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 22-34 and 38 is/are rejected.
- 7) ☒ Claim(s) 19-21 and 35-37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/29/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 10 and 11 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

1. Claim 10 (and claim 11 which depends from 10) repeats the limitation of claim 1

"wherein when the at least one heatable roll is heated and is moved over at least a portion of the imaged surface of the flexographic printing element, no-crosslinked polymer on the imaged surface of the flexographic printing element is melted and removed by the at least one heatable roll."

2. Claim 19 is objected to because of the following informalities: the phrase "opposably positioned adjacent and apart from each other" is unclear. Appropriate correction is required.

3. Claim 35 is objected to because of the following informalities: the phrase "positioned adjacent and apart from each other" is unclear. Appropriate correction is required.

Claims 24, 26 and 27 are objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 24 recites the limitation "--cylindrical--" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 26 recites the limitation "--cylindrical--" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 27 recites the limitation "--cylindrical--" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8-11, 13-17, 23, 27-32 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Peterson et al. (US 5,279,697).

1. Regarding claim 1, Peterson et al. disclose "a thermal developing apparatus for removing non-crosslinked polymer from an imaged surface of a flexographic printing element, the thermal developing apparatus comprising: (column 4, lines 13-21)

at least one heatable roll that is contactable with an imaged surface of a flexographic printing element; (column 4, 41-42 and figure 6) and

means for maintaining contact between the at least one heatable roll and the imaged surface of the flexographic printing element (column 12, lines 50-63),

wherein when the at least one heatable roll is heated and is moved over at least a portion of the imaged surface of the flexographic printing element, non-crosslinked polymer on the imaged surface of the flexographic printing element is melted and removed by the at least one heatable roll (column 13, lines 20-22)."

2. Regarding claim 2, Peterson et al. disclose "the thermal developing apparatus according to claim 1, wherein a blotting material is positioned on at least a portion of the at least one heatable roll, and wherein when the at least one heatable roll is heated and is contacted with the imaged surface of the flexographic printing element, non-crosslinked polymer on the imaged surface of the flexographic printing element is melted by the heated roll and is removed by the blotting material (column 13, lines 12-28 and figure)."

3. Regarding claim 3, Peterson et al. disclose "the thermal developing apparatus according to claim 2, wherein the blotting material is looped under and around at least the portion of the at least one heatable roll that contacts the imaged surface of the flexographic printing element (figure 6, items 76 and 78)."

4. Regarding claim 4, Peterson et al. disclose "the thermal developing apparatus according to claim 3, wherein the blotting material is continuously supplied to the at least one heatable roll from a remote source of the blotting material (figure 6, item 96)."

5. Regarding claim 5, Peterson et al. disclose "the thermal developing apparatus according to claim 3, further comprising a rewind device to carry away the blotting material that contains the removed non-crosslinked polymer (figure 6, item 80)."

6. Regarding claim 8, Peterson et al. disclose "the thermal developing apparatus according to claim 1, wherein the means for maintaining contact between the at least one heatable roll and the imaged surface of the flexographic printing element comprises an air cylinder or a hydraulic cylinder that forces the at least one heatable roll against

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the imaged surface of the flexographic printing element (column 12, lines 50-63 and figure 6, item 100)."

7. Regarding claim 9, Peterson et al. disclose "the thermal developing apparatus according to claim 1, wherein the flexographic printing element is cylindrical (figure 6, item 71)."

8. Regarding claim 10, Peterson et al. disclose "the thermal developing apparatus according to claim 9, wherein the at least one heatable roll rotates over at least a portion of the imaged surface of the flexographic printing element (column 13, lines 20-22)."

9. Regarding claim 11, Peterson et al. disclose "the thermal developing apparatus according to claim 10, wherein the at least one heatable roll rotates in a first direction and the cylindrical flexographic printing element rotates in an opposite direction from the at least one heatable roll (column 12, lines 23-28)."

10. Regarding claim 13, Peterson et al. disclose "the thermal developing apparatus according to claim 9, wherein the means for maintaining contact between the at least one heatable roll and the imaged surface of the flexographic printing element comprises an air cylinder or a hydraulic cylinder that forces the at least one heatable roll against the imaged surface of the flexographic printing element (column 12, lines 50-63 and figure 6, item 100)."

11. Regarding claim 14, Peterson et al. disclose "the thermal developing apparatus according to claim 9, wherein a blotting material is positionable on at least a portion of the at least one heatable roll, and wherein when the at least one heatable roll is heated

and is contacted with the imaged surface of the flexographic printing element, non-crosslinked polymer on the imaged surface of the flexographic printing element is melted by the heated roll and is removed by the blotting material (column 13, lines 12-28).”

12. Regarding claim 15, Peterson et al. disclose “the thermal developing apparatus according to claim 14, wherein the blotting material is looped under and around at least the portion of the at least one heatable roll that contacts the imaged surface of the flexographic printing element (figure 6, items 76 and 78).”

13. Regarding claim 16, Peterson et al. disclose “the thermal developing apparatus according to claim 15, wherein the blotting material is continuously supplied to the at least one heatable roll from a remote source of the blotting material (figure 6, item 96).”

14. Regarding claim 17, Peterson et al. disclose “the thermal developing apparatus according to claim 15, further comprising a rewind device to carry away the blotting material that contains the removed non-crosslinked polymer (figure 6, item 80).”

15. Regarding claim 23, Peterson et al. disclose “a method of removing non-crosslinked polymer from an imaged surface of a flexographic printing element with at least one heatable roll, the method comprising:

- a) heating the at least one heatable roll; (column 4, lines 40-41)
- b) causing contact between the at least one heated roll and the imaged surface of the flexographic printing element; (column 4, lines 41-42) and
- c) rotating the at least one heated roll against at least a portion of the imaged surface of the flexographic printing element to melt and remove non-crosslinked

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photopolymer from the imaged surface of the flexographic printing element (column 13, 20-22)."

16. Regarding claim 27, Peterson et al. disclose "the method according to claim 23, wherein the at least one heated roll rotates in a first direction, and the cylindrical flexographic printing element rotates in an opposite direction from the at least one heated roll (column 12, 23-25)."

17. Regarding claim 28, Peterson et al. disclose "the method according to claim 23, wherein an air cylinder or a hydraulic cylinder is used to maintain contact between the at least one heated roll and the images surface of the flexographic printing element (column 12, lines 50-63, figure 6, item 100)."

18. Regarding claim 29, Peterson et al. disclose "the method according to claim 23, wherein the at least the portion of the at least one heated roll that is in contact with the imaged surface of the flexographic printing element is covered with a blotting material and the blotting material removes the non-crosslinked polymer from the imaged surface of the flexographic printing element (column 13, lines 12-28)."

19. Regarding claim 30, Peterson et al. disclose "the method according to claim 29, wherein the blotting material is looped under and around at least the portion of the at least one heated roll that is in contact with the imaged surface of the flexographic printing element (figure 6, items 76 and 78)."

20. Regarding claim 31, Peterson et al. disclose "the method according to claim 30, wherein the blotting material is continuously fed to the at least one heated roll from a remote source of the blotting material (figure 6, item 96)."

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21. Regarding claim 32, Peterson et al. disclose "the method according to claim 31, wherein the blotting material that contains the removed non-crosslinked photopolymer is rewound onto a rewind device (figure 6, item 80)."

22. Regarding claim 38, Peterson et al. disclose "the method according to claim 23, wherein the at least one heated roll is maintained at a temperature of about 350 °F to about 450 °F (column 3, lines 3-8, column 17, line 65, and figures 7A-7D)."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 18 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al. in view of Cohen et al. (US 3,264,103).

23. Regarding claim 6, "the thermal developing apparatus according to claim 2, wherein the blotting material is paper." Peterson et al. teach "the thermal developing apparatus according to claim 2 (column 13, lines 12-28)." Peterson et al. lack the "wherein the blotting material is paper." Cohen et al. teach the use of paper as a "blotting material" in "thermal developing apparatus(es) (column 2, line 1)." It would have been obvious to one of ordinary skill in the art at the time of the invention to use

the paper blotting material of Cohen et al. in the apparatus of Peterson et al. because of the cheaper expense and ease of use of paper.

24. Regarding claim 18, "the thermal developing apparatus according to claim 14, wherein the blotting material is paper." Peterson et al. teach "the thermal developing apparatus according to claim 14 (column 13, lines 12-28)." Peterson et al. lack the "wherein the blotting material is paper." Cohen et al. teach the use of paper as a "blotting material" in "thermal developing apparatus(es) (column 2, line 1)." It would have been obvious to one of ordinary skill in the art at the time of the invention to use the paper blotting material of Cohen et al. in the apparatus of Peterson et al. because of the cheaper expense and ease of use of paper.

25. Regarding claim 33, "the method according to claim 29, wherein the blotting material comprises paper." Peterson et al. teach "the method according to claim 29 (column 13, lines 12-28)." Peterson et al. lack the "wherein the blotting material comprises paper." Cohen et al. teach the use of paper as a "blotting material" in "thermal developing apparatus(es) (column 2, line 1)." It would have been obvious to one of ordinary skill in the art at the time of the invention to use the paper blotting material of Cohen et al. in the apparatus of Peterson et al. because of the cheaper expense and ease of use of paper.

Claims 7, 22, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al. in view of Okamoto (US 6,490,424).

26. Regarding claim 7, "the thermal developing apparatus according to claim 1, further comprising a doctor blade that is positionable adjacent to the at least one heatable roll, and wherein when the at least one heatable roll removes non-crosslinked polymer from the imaged surface of the flexographic printing element, the doctor blade wipes the non-crosslinked polymer from the surface of the at least one heatable roll." Peterson et al. teach "the thermal developing apparatus according to claim 1 (figure 6)." Peterson et al. lack "further comprising a doctor blade that is positionable adjacent to the at least one heatable roll, and wherein when the at least one heatable roll removes non-crosslinked polymer from the imaged surface of the flexographic printing element, the doctor blade wipes the non-crosslinked polymer from the surface of the at least one heatable roll." Okamoto teaches a "doctor blade that is positionable adjacent to the at least one heatable roll" for removing unwanted material "from the surface of the at least one heatable roll (column 1, lines 59-66)." It would have been obvious to one of ordinary skill in the art at the time of the invention to add the doctor blade of Okamoto to the thermal developing apparatus of Peterson et al. in order to quickly and easily remove the non-crosslinked polymer material.

27. Regarding claim 22, "the thermal developing apparatus according to claim 9, further comprising a doctor blade that is positionable adjacent to the at least one heatable roll, and wherein when the at least one heatable roll removes non-crosslinked

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polymer from the imaged surface of the flexographic printing element, the doctor blade wipes the non-crosslinked polymer from the surface of the at least one heatable roll."

Peterson et al. teach "the thermal developing apparatus according to claim 9 (figure 6)."

Peterson et al. lack "further comprising a doctor blade that is positionable adjacent to the at least one heatable roll, and wherein when the at least one heatable roll removes non-crosslinked polymer from the imaged surface of the flexographic printing element, the doctor blade wipes the non-crosslinked polymer from the surface of the at least one heatable roll." Okamoto teaches a "doctor blade that is positionable adjacent to the at least one heatable roll" for removing unwanted material "from the surface of the at least one heatable roll (column 1, lines 59-66)." It would have been obvious to one of ordinary skill in the art at the time of the invention to add the doctor blade of Okamoto to the thermal developing apparatus of Peterson et al. in order to quickly and easily remove the non-crosslinked polymer material.

28. Regarding claim 34, "the method according to claim 23, wherein the non-crosslinked polymer remaining on the at least one heated roll after removal from the imaged surface of the flexographic printing element is removed from the at least one heated roll by positioning a doctor blade adjacent to the at least one heated roll to wipe the non-crosslinked polymer from the surface of the at least one heated roll." Peterson et al. teach "the method according to claim 23 (column 4, lines 35-43)." Peterson et al. lack "further comprising a doctor blade that is positionable adjacent to the at least one heatable roll, and wherein when the at least one heatable roll removes non-crosslinked polymer from the imaged surface of the flexographic printing element, the doctor blade

wipes the non-crosslinked polymer from the surface of the at least one heatable roll.”

Okamoto teaches a “doctor blade that is positionable adjacent to the at least one heatable roll” for removing unwanted material “from the surface of the at least one heatable roll (column 1, lines 59-66).” It would have been obvious to one of ordinary skill in the art at the time of the invention to add the doctor blade of Okamoto to the thermal developing apparatus of Peterson et al. in order to quickly and easily remove the non-crosslinked polymer material.

Claims 12, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al. in view of Gasparrini (US 5,107,764).

29. Regarding claim 12, “the thermal developing apparatus according to claim 9, further comprising means for allowing the at least one heatable roll to traverse along the length of the cylindrical flexographic printing element.” Peterson et al. teach “the thermal developing apparatus according to claim 9 (column 4, lines 13-21, 41-42, column 12, lines 50-63, column 13, lines 20-22 and figure 6, item 71).” Peterson et al. lack “further comprising means for allowing the at least one heatable roll to traverse along the length of the cylindrical flexographic printing element.” Gasparrini teaches a “means for allowing at least one ... roll to traverse along the length of the cylindrical ... element (column 4, lines 45-49).” It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Peterson et al. with the transport mechanism of Gasparrini in order to remove non-crosslinked polymer from cylinders of varying lengths.

30. Regarding claim 24, "the method according to claim 23, wherein the at least one heated roll traverses the length of the cylindrical flexographic printing element."

Peterson et al. teach "the method according to claim 23 (column 4, lines 35-43)."

Peterson et al. lack "further comprising means for allowing the at least one heatable roll to traverse along the length of the cylindrical flexographic printing element." Gasparrini teaches a "means for allowing at least one ... roll to traverse along the length of the cylindrical ... element (column 4, lines 45-49)." It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Peterson et al. with the transport mechanism of Gasparrini in order to remove non-crosslinked polymer from cylinders of varying lengths.

31. Regarding claim 25, "the method according to claim 24, wherein the at least one heated roll traverses the length of the flexographic printing element multiple times until all of the non-crosslinked polymer is removed from the imaged surface of the flexographic printing element." Peterson et al. teach "the method according to claim 23 (column 4, lines 35-43)." Peterson et al. lack "further comprising means for allowing the at least one heatable roll to traverse along the length of the cylindrical flexographic printing element." Gasparrini teaches a "means for allowing at least one ... roll to traverse along the length of the cylindrical ... element (column 4, lines 45-49)." It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Peterson et al. with the transport mechanism of Gasparrini in order to remove non-crosslinked polymer from cylinders of varying lengths. Peterson et al. further teach the need for passing the "heated roll" "multiple times until all of the non-

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crosslinked polymer is removed from the imaged surface of the flexographic printing element (column 13, 22-28)."

32. Regarding claim 26, "the method according to claim 25, wherein the at least one heated roll traverses the length of the cylindrical flexographic printing element in a spiral or stepwise manner." Peterson et al. teach "the method according to claim 23 (column 4, lines 35-43)." Peterson et al. lack "further comprising means for allowing the at least one heatable roll to traverse along the length of the cylindrical flexographic printing element." Gasparrini teaches a "means for allowing at least one ... roll to traverse along the length of the cylindrical ... element (column 4, lines 45-49)." It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Peterson et al. with the transport mechanism of Gasparrini in order to remove non-crosslinked polymer from cylinders of varying lengths. Peterson et al. further teach the need for passing the "heated roll" "multiple times until all of the non-crosslinked polymer is removed from the imaged surface of the flexographic printing element (column 13, 22-28)."

Allowable Subject Matter

33. Claims 19-21 and 35-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

34. The following is a statement of reasons for the indication of allowable subject matter: the prior art neither discloses or teaches a method (or apparatus using said method) comprising two self-centering, heatable rolls that are opposably positioned,

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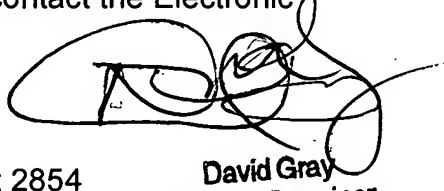
said rollers maintaining contact with the surface of a printing element. Further, the art neither teaches nor discloses a method (or apparatus using said method) further comprising a blotting material that is looped under and around the heatable rolls. Further, the art neither teaches nor discloses a method or apparatus further comprising one or more additional heatable rollers that are opposing the former rollers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Zimmerman whose telephone number is 571-272-2749. The examiner can normally be reached on M-F 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on 571-272-2119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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David Gray
Primary Examiner

jdz